

Range Extensions of Several Littorinids

(Mollusca : Gastropoda)

in Florida

BY

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INTRODUCTION

RANGES OF VARIOUS *Littorina* species endemic to the western Atlantic have been discussed by BEQUAERT (1943), HEDGPETH (1953), BORKOWSKI (1969), BINGHAM (1969), and SMALLEY (1970).

During my studies of the ecology of the Littorinidae of Florida, several species have been collected in areas from which they have not been reported previously.

The identifications of the species mentioned have been verified by Dr. Joseph Rosewater. The specimens are now included in the U. S. National Museum collection.

Littorina angulifera Lamarck, 1822

Five living specimens of *Littorina angulifera* were seen by the author on concrete bulkheads near Panama City, Florida (30°10'N; 85°40'W) on October 19, 1968. One of these specimens was collected and sent to the U. S. National Museum. Three specimens of the species were seen in the Panama City area on July 17, 1971. The largest specimen of *L. angulifera* had a shell length of 36 mm.

Panama City is approximately 240 miles (384 km) east of Grand Isle, Louisiana where *Littorina angulifera* was collected by SMALLEY (1970), and some 180 miles (288 km) northwest of Cedar Keys, Florida, where the species has been noted to occur (BEQUAERT, 1943).

Littorina lineolata d'ORBIGNY, 1840

Several hundred living specimens of *Littorina lineolata* were seen on a rock jetty at the mouth of St. Andrews

Bay near Panama City, Florida (30°10'N; 85°40'W) on July 7, 1971. Several specimens were collected and sent to the U. S. National Museum. This species was seen only on the rock jetty and not on several concrete bulkheads in the Panama City area. The species was not seen on the rock jetty during frequent collecting trips to Panama City during the years 1968 to 1970.

BORKOWSKI (1969) found that *Littorina ziczac*, as known to BEQUAERT (1943) is actually a group of closely related species and *L. lineolata* is one of these.

Littorina meleagris Potiez & Michaud, 1838

In June, 1970, an extensive population of *Littorina meleagris* was noted by the author at Jupiter Blowing Rocks (28°58'N; 80°05'W), near Jupiter, Florida.

The population at Jupiter Blowing Rocks is found mainly on algae-covered boulders situated low in the intertidal zone. These boulders are exposed to air for only short periods and drying is minimal.

Whereas BEQUAERT (1943) notes that *Littorina meleagris* is found "in rather quiet water," the opposite is true of the population inhabiting Jupiter Blowing Rocks.

The population of *Littorina meleagris* at Jupiter Blowing Rocks has persisted from June, 1970 to the time of the writing of this report (January, 1972).

Littorina meleagris has previously been reported in Florida as far north as Boynton Beach, Palm Beach County (BEQUAERT, 1943), some 27 miles (43 km) south of Jupiter.

Littorina mespillum Mühlfeld, 1824

A single living specimen of *Littorina mespillum* was collected by the author at Jupiter Blowing Rocks (26°58'N; 80°05'W) near Jupiter, Florida on March 26, 1971. The specimen was taken from an exposed, algae-covered boul-

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der situated low in the intertidal zone. Two additional specimens were collected from "splash pools" at the same location on April 24, 1971.

The range of this species in Florida was reported by BEQUAERT (1943) to be the southern Florida Keys. Thomas and Paul McGinty of Boynton Beach, Florida, collected the species from Yamato Rocks (26°26' N; 80°04' W) on July 16, 1961 (personal communication).

The Jupiter Blowing Rocks are some 31 miles (50 km) north of Yamato Rocks. The published range of the species is extended approximately 170 miles (272 km) northward along the Florida coast.

Littorina nebulosa Lamarck, 1822

A single living specimen of *Littorina nebulosa* was collected by the author from a wooden bulkhead on East Summerland Key, Florida Keys, Florida (24°40' N; 81°27' W) on July 16, 1971. East Summerland Key and Panama City (BINGHAM, 1969) are the only localities where this species has been collected in Florida.

Littorina tessellata Philippi, 1847

Littorina tessellata was first noted in Florida only recently (BINGHAM, 1972).

A single living specimen of *Littorina tessellata* was collected by Miss Helen D. Albertson on July 16, 1971, from a wave-exposed wooden piling on lower Matecumbe Key, Florida Keys, Florida (24°52' N; 80°42' W). A third

specimen of this species seen in Florida was collected by the writer from a wooden piling on the Biscayne Bay side of Key Biscayne, Florida (25°40' N; 80°10' W) on September 3, 1971.

In Florida, *Littorina tessellata* has thus far been reported only from the Florida Keys.

ACKNOWLEDGMENTS

I am indebted to Dr. Hilary B. Moore and Miss Helen D. Albertson for their aid during many collecting trips. Dr. Joseph Rosewater's verification or identification of many specimens is appreciated.

Literature Cited

- BEQUAERT, JOSEPH CHARLES
1943. The genus *Littorina* in the western Atlantic. *Johnsonia* 1 (7): 1 - 28; pls. 1 - 7
- BINGHAM, FRASIER O.
1969. *Littorina nebulosa* in Florida. *The Nautilus* 82 (4): 146 - 147
1972. First recorded occurrence of *Littorina tessellata* Philippi, 1847 from the shores of North America. *The Veliger* 15 (2): 158; 1 text fig. (1 October 1972)
- BORKOWSKI, THOMAS V. & MARILYNN R. BORKOWSKI
1969. The *Littorina ziczac* species complex. *The Veliger* 11 (4): 408 - 414; pl. 66; 4 text figs. (1 April 1969)
- HEDGPETH, JOEL WALKER
1953. An introduction to the zoogeography of the northwestern Gulf of Mexico with reference to the invertebrate fauna. *Texas. Univ. Inst. Mar. Sci. Publ.* 3: 107 - 224
- SMALLEY, A. E.
1970. *Littorina* in Louisiana. *The Nautilus* 84 (1): 35 - 36

